Management of Hazardous Waste for School Districts

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Today's Presentation

EPA Regulations for Hazardous Waste Best Practices Used Oil Universal Waste Lab Packs Disposal Methods Packaging and shipping Summary Recommendations for success

Set Up a Good Waste Management System

Identify all wastes generated

- Determine which ones are hazardous waste Determine pounds of HW per month
- Keep records

Identify options for getting rid of waste including used oil Identify HW management standards Train staff on waste management Minimize waste/recycle



Resource Conservation and Recovery Act (RCRA)

National hazardous waste law Passed by Congress in 1976 Was established to prevent contaminated sites It set standards for management of all waste and used oil



Why should I care about hazardous waste?

Hazardous waste at your Site can be harmful to you and your environment

- Pesticides, Herbicides and many solvents may cause cancer and lung disease
- Toxic Heavy Metals bioaccumulate. Low exposure over time can poison you and they are deadly to fish



Motor oil from one oil change dumped in a drain or on the ground can contaminate a million gallons of fresh water



What is a Hazardous Waste?

Anything you can no longer use or are throwing away that has any of the hazardous characteristics identified by

EPA



Hazardous Waste

Characteristics

oxic – Harmful to living things

Examples: Lead, mercury, cadmium, chromium, benzene, methyl ethyl ketone, perchloroethylene

- Explode or react violently with water

Examples: Aerosol cans, deteriorated lab chemicals, sodium metal, cyanides

mitable – Flash point less than 140F, compressed

gases

Examples: Cleaning solvents, paint thinner, gasoline, acetylene tanks(welding gas)

Corrosive – pH 2.0 or less or 12.5 or more

Examples: Battery acid, corrosive cleaners (such as caustic radiator cleaner)



How to ID Hazardous Waste

Look at the product's Safety Data Sheet (SDS) and look for:

- a waste code
 material <u>characteristics</u> (such as a flash point, pH)
- a chemical name that may be <u>listed</u> on one of EPA's lists of waste (such as the F-Listed solvents)

The SDS can be found on the manufacturer's website

Note that the waste may change through use, so don't rely
on the SDS as your only source of info

You may also send a sample of the waste to a lab to determine if it is hazardous waste

Talk to your hazardous waste vendor

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Mixture Rule

Don't mix hazardous waste with other wastes One drop of F-listed carburetor cleaner in your drum of used oil = whole drum is F-listed hazardous waste

Best Practice: Don't spray brake cleaner or carburetor cleaner over your used oil drum or parts washer



Identify Hazardous Waste by "Generator Knowledge"

A Site can use their knowledge of the waste to determine if it is hazardous waste. Knowledge must be based on some waste analysis:

- Manufacturer's SDS for the product
- Prior waste analysis
- Product labels
- Knowledge of use of product

If you know your waste is a hazardous waste, document your knowledge and keep a record of it – Waste Profile



Hazardous Waste Generators

A hazardous waste generator is the person (you and your Site) who creates the waste There are 3 classes of generators based on the amount of hazardous waste generated in a month

Generator Class	Amount Generated in One Month
Very Small Quantity Generators (VSQG)	220 pounds or less
Small Quantity Generators (SQG)	between 220 and 2,200 pounds
Large Quantity Generators (LQG)	2,200 pounds or more

How Much Hazardous Waste Do You Generate?

Hazardous waste in liquid form:

- Weigh the container of waste and subtract the weight of the empty container, or
- Convert gallons to pounds, by multiplying the volume of the waste with the specific gravity of the waste

Hazardous waste in solid form:

 Weigh the container of waste and subtract the weight of the empty container



Storing Waste Best Practice

Keep containers of waste indoors Drums exposed to extreme weather conditions may freeze, expand and burst or draw in rain water sitting on the lids





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Hazardous Waste Best Practices

Do not mix hazardous waste with other wastes Take time to identify all waste Count waste to figure out your generator class Keep waste in containers

Label containers of hazardous waste with the words "hazardous waste" and include the date that you started accumulating the waste Make sure that the waste you ship goes to a proper hazardous waste facility

Look for ways to recycle hazardous waste at your Site

Talk to your hazardous waste vendor



Aerosol Cans

If your can is partially full and/or pressurized = hazardous waste

Depressurize your aerosol cans with a can puncture unit

If the product is a hazardous waste then empty contents into a hazardous waste container

Recycle empty cans as scrap metal

Do not put pressurized aerosol cans in the trash





Antifreeze and Heat Transfer fluid

Used antifreeze that picks up lead and other metals from the cooling system = hazardous waste Recycle your antifreeze offsite



Lead Acid Batteries

Lead acid batteries = hazardous waste

What do you do with them?

- Return to vendor to be reconditioned
- Managed them as hazardous waste and send them to a permitted hazardous waste facility

• Manage them as universal waste batteries (to be discussed soon)





Used Oil Definition

Used oil Is NOT "hazardous waste" if it is sent for recycling or burned to heat your Site (or other energy recovery)

Includes:



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Used crank case oil Used oil rags that are not laundered Used oil filters that are not drained Dripping oil spill absorbent material Used transmission fluid Used brake fluid Hydraulic oil Vacuum pump oil

Used oil cannot be mixed with hazardous waste

How to Manage Used Oil

Burn it for energy recovery or Recycle it Disposal is prohibited!

Label tanks and containers with the words "Used Oil" (not " waste oil")

Don't transport more than 55 gallons offsite yourself (unless you are a used oil transporter with a RCRA ID#) Keep records of your offsite shipments Use absorbents to clean up spills as soon as possible

Don't mix other waste with used oil





Oil Spills Happen!

Clean up spilled oil immediately with absorbents Stop the leak or spill from getting worse Use enough absorbents to absorb all liquid oil Scoop up the used absorbent and as long as it's not dripping with oil, dispose of it in the trash If hazardous waste also spilled, treat the absorbent material as hazard



Oil Filters, Oily Rags, and Absorbents

Filters

Punctured and hot drained filters = scrap me

Rags

Dripping with oil – wring them out into container Not dripping with oil - send to industrial laundry and reuse

Absorbent material for a used oil spil

If it's sopping wet – add more absorbents du If it's not dripping – throw it in the trash du If hazardous waste was also spilled – absorbents are hazardous waste



Burning Used Oil for Heat In Your Shop

You can burn used oil in your shop without a permit if:

It is generated in your shop or collected from do-it-yourselfers, and

2. It is burned in a space heater that is less than 500,000 BTUs and vented to the ambient air

You cannot burn used oil in your shop if it contains hazardous waste



Used oil can only be burned in the shop where it is generated, unless.....



Burning Your Oil at Another Site

If you want to send your used oil to another Site for burning, your used oil has to meet these specifications (be "on spec") for burning without a permit:



Burning Your Oil at Another Site

Used oil from your Site can be burned at another location only if it is determined to be "on spec"

The simplest and most sure way to determine if your oil is "on spec" is to send a sample to a lab

The rules don't specify <u>who</u> is responsible to make the "on spec" determination. Someone must do it and the person who does it is a "used oil marketer" and needs to get an EPA ID number.

Used oil cannot be burned at another Site without making the "on spec" determination



Burning "Off Spec" Used Oil at Another Location

Can only be burned in industrial furnaces and boilers

Need a permit:

- RCRA Hazardous Waste Incinerator Permit, and/or
- **Clean Air Act Permit**



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Recycling Used Oil

Used oil that is not burned in your shop or at another location must be recycled

Send it to a recycler (Recyclers typically remove water and contaminates from oil and blend it into fuels)

Send it to a re-refiner to be processed into lubricating oil



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How to Manage Universal Waste

Store in closed containers

Label containers with the words "universal waste" and the type of waste (i.e. universal waste – batteries)

Store universal waste for no more than one year

Record the date when storage began

Use a universal waste transporter for off-site shipment. The universal waste must be shipped to a hazardous waste recycler or a permitted hazardous waste facility

Train staff handling universal waste on these requirements

Don't throw universal waste in the trash



Batteries

Bulb Best Practices

Collect bulbs in a container made for a bulb

Don't break bulbs

Send bulbs to a recycler If you must crush:

 Determine if it's hazardous waste

• If yes, manage the waste as if you were a SQG or LQG



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Labpacking

Consolidation of Compatible/Similar Hazard Class Material

Completion of Labpack Inventory Sheets

Individual Containers are Placed Right Side Up in an Overpack Drum/Box

Cushioning/Absorbent Material Used to Fill Voids to Prevent Breakage/Absorb Leaks



Labpack inventory sheet

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Steps to take after labpack inventory sheet is completed

Make Copy of Labpack Sheet

- I Copy for the Customer Service Rep to use for Profiling and Manifesting
- I Copy Goes onto Drum Inside Packing Envelope

Proper Labeling and Marking of Drum

- 1. Marker (Haz, Non-RCRA/DOT, Non-Haz)
- 2. Hazard Class Label, Sometimes Subsidiary Hazard Class Label is Necessary
- 3. Orientation Labels, if Liquids Present
- 4. "Inside Containers Comply with Prescribed Regulations" Label
- 5. Copy of Labpack Sheet in Packing Envelope



Recordkeeping

Sites must be able to prove that you're following waste management rules Keep records of:

- Waste designation (which wastes are hazardous, used oil, universal waste, etc.)
- Waste generation amounts per month
- Shipping records for off site shipments for waste or used oil
- Training records
- Inspection logs
- Waste accumulation start dates (can be kept on the container label)



Tips to Reduce Waste

The easiest way to simplify hazardous waste management is to not generate it in the first place Don't mix wastes – a small amount of hazardous waste mixed with a non-hazardous waste makes it all hazardous waste

Recycle or reuse material as much as possible – some recycled wastes are exempt from hazardous waste rules

Change your process or materials to use less hazardous products

Don't buy more than you need

Store hazardous materials to minimize the potential





HAZARDOUS WASTE TREATMENT AND DISPOSAL METHODS

Paint, Solvent, Intact Batteries, Antifreeze Recycle-Reuse





Oil, Fuels, Petroleum Distillates

Local energy Recovery



HAZARDOUS WASTE TREATMENT AND DISPOSAL METHODS

Acids, Caustics, Bases, Cleaners

Treatment / Neutralization

HAZARDOUS WASTE TREATMENT AND DISPOSAL METHODS

Toxic, Reactive and Persistent

Secure Landfill Disposal



HAZARDOUS WASTE TREATMENT AND DISPOSAL METHODS

Explosive, Biological, Infective

Destructive Incineration

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DOT Training Requirements 172.704

Requires employers to provide all hazmat employees training General awareness/familiarization training Function-specific training Safety training Security awareness training Alternative training can be OSHA, EPA or other training that complies







Package Labeling Example









Composite Packaging









Violations are Expensive



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Next Steps

Inventory waste in your Site and identify the hazardous waste, universal waste, and used oil

Weigh your hazardous waste and count the amount each month to determine your generator class

Have a plan for managing your waste:

- Local hazardous waste collection program
- Commercial Hazardous waste management company
 Recycler

Look for non-hazardous substitutes

Train everyone on your team on how to manage waste





